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Yihong Gong

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23493

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03/04/2008

SUGHRUE MION, PLLC

2100 Pennsylvania Avenue, N.W.

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EXAMINER

TRAN, QUOC A

ART UNIT

PAPER NUMBER

2176

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@sughrue.com

USPatDocketing@sughrue.com

<b>Office Action Summary</b>	<b>Application No.</b> 09/817,591	<b>Applicant(s)</b> GONG ET AL.	
	<b>Examiner</b> Quoc A. Tran	<b>Art Unit</b> 2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☒ Claim(s) 6, 8, 18, and 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

This action is a **Non-Final** in response to RCE/ Amendment filed on 12/17/2007. Claims 1-32 are pending. Claims 1, 9, 13, 21, 26 and 29 are independent claims and have been amended herein; originally filed 03/26/2001, which Claims Priority from Provisional Application 60254535, filed 12/12/2000 (by NEC), attorney of record Pavel Pogodin, Registration No. 48,205 Customer No. 23493 at SUGHRUE MION, PLLC Telephone: (650) 625-8100.

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/17/2007 has been entered.

***Claim Objections***

Claims 6, 8, 18, and 20 recite the limitation "*normalizing*" in Page 3 line 14, Page 4 Line 5, Page 7, Line 13 and Page 8, Line 5. There is insufficient antecedent basis for this limitation in the claim. In summary, it is noted the Applicant's disclosure expressly states, "*another vector may be created by normalizing  $A(k)$  by its length, or magnitude  $A(i)$ ,*" see Applicant's Specs at Page

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7 Lines 22. However, it is not clear the steps involved in the method/process of "normalizing" as claimed.

Appropriate correction is required

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

***(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.***

**Claims 1-4, 9-16, 21-24, and 26-31** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hwang** et al., US20020078090A1 -Provisional No. 60/215,436 filed 06/30/2000 (hereinafter "Hwang"), in view of **Foltz** et al., US006356864B1 - filed 07/23/1998 (hereinafter "Foltz").

#### ***Regarding independent claim 1,***

Hwang teaches:

**A method of creating a generic text summary of a document;  
said method comprising: obtaining the document; selecting a  
sentence for inclusion in said generic text summary in accordance  
with said computing, wherein the selected sentence has the**

**computed score representing high degree of relevance of the  
corresponding to said document;**

(See Page 4 Para 40 and at the Abstract→ Hwang discloses this limitation in that the selecting sentences for inclusion in the document text summary based upon the ranking (i.e. score representing high degree of relevance,)

**deleting said selected sentence from said document and  
eliminating terms in said selected sentence from said document;**

(See Page 4 Para 40-41→ Hwang discloses this limitation in that the selecting sentences for inclusion in the document text summary based upon the ranking, then the sentences determined for inclusion are then extracted (i.e. deleting) along with any desired context information (e.g., which paragraph each sentence is from, etc.) and merged.

**and generating the generic text summary based on the  
selected sentence.**

(See Page 4 Para 40-41 and the Abstract → Hwang discloses this limitation in that the generic text summary based on the selected sentence, by selecting sentences for inclusion in the document text summary based upon the ranking, then the sentences determined for inclusion are then extracted for constructing a text summarization.)

In addition, Hwang does not explicitly teach, but Foltz teaches:

**creating a weighted document term-frequency vector for said  
document;**

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(See Column 2, Lines 20-25 and Column 10 Lines 15-25 → Foltz discloses this limitation in that each document is allocated a single vector within the data matrix (i.e., a weighted document term-frequency vector).)

**wherein the selected sentence has the computed score  
representing high degree of relevance of the corresponding  
weighted sentence term-frequency vector to said weighted document  
term-frequency vector;**

(See Column 2, Lines 20-25 and Column 10 Lines 15-25 → Foltz discloses this limitation in that the Latent Semantic Analysis (LSA) and Singular Value Decomposition (SVD) are used to analyze an essay, a sample text (i.e., document), then assign a numerical score to the document (i.e., a vector representation of the selected text), wherein the segment vector represents the individual reference documents. A segment vector can be an entire reference text, abstract, title of a document, at least one paragraph of a text, at least one sentence of a text, or a collection of text objects that convey an idea or summarizes a topic. Each document is allocated a single vector within the data matrix (i.e., a weighted document term-frequency vector or weighted sentence term-frequency vector).)

**for each sentence in said document, creating a weighted  
sentence term-frequency vector; computing a score for each said  
weighted sentence term-frequency vector in accordance with  
relevance to said weighted document term-frequency vector;**

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(See Column 2, Lines 20-25 and Column 10 Lines 15-25 → Foltz discloses this limitation in that the Latent Semantic Analysis (LSA) and Singular Value Decomposition (SVD) are used to analyze an essay, a sample text (i.e., document), then assign a numerical score to the document (i.e., a vector representation of the selected text), wherein the segment vector represents the individual reference documents. A segment vector can be an entire reference text, abstract, title of a document, at least one paragraph of a text, at least one sentence of a text, or a collection of text objects that convey an idea or summarizes a topic. Each document is allocated a single vector within the data matrix (i.e., a weighted document term-frequency vector or weighted sentence term-frequency vector).)

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang, to include the step of creating a weighted document term-frequency vector for said document; wherein the selected sentence has the computed score representing high degree of relevance of the corresponding weighted sentence term-frequency vector to said weighted document term-frequency vector for each sentence in said document, creating a weighted sentence term-frequency vector; computing a score for each said weighted sentence term-frequency vector in accordance with relevance to said weighted document term-frequency vector as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

***Regarding independent claim 9,***

Claim 9 recites a system, included a CPU, memory, an interface, a display, a summarizer, a vector generator, a selector, and a document editor to select text, for performing the method recited in Claim 1. Thus, Hwang and Foltz disclose every limitation of Claim 9 and provides proper reasons to combine, as indicated in the above rejections for Claim 1 - See Hwang at Fig. 1 and Page 2-3 Para 21-22, and also see Foltz at Column 3 Lines 35-45, discloses the method generates a vector representation of a selected reference text from the plurality of reference text used to create the data matrix.

***Regarding independent claim 13,***

Claim 13 incorporates substantially similar subject matter as cited in claim 1. Thus, the rejection of claim 1 is fully incorporated.

In addition, Hwang teaches:

**decomposing said document into individual sentences;**

**forming a candidate sentence set from said individual sentences; for**

**each of said individual sentences in said candidate sentence set,**

(See Page 4 Para 40-41 and the Abstract → Hwang discloses this limitation in that the generic text summary based on the selected sentence, by selecting sentences for inclusion in the document text summary based upon the ranking, then the sentences determined for inclusion are then extracted for constructing a text summarization.)



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In addition, Hwang does not expressly teach, but Foltz teaches:

**creating a weighted sentence term-frequency vector;**

(See Column 2, Lines 20-25 and Column 10 Lines 15-25 → Foltz discloses this limitation in that the Latent Semantic Analysis (LSA) and Singular Value Decomposition (SVD) are used to analyze an essay, a sample text (i.e., document), then assign a numerical score to the document (i.e., a vector representation of the selected text), wherein the segment vector represents the individual reference documents. A segment vector can be an entire reference text, abstract, title of a document, at least one paragraph of a text, at least one sentence of a text, or a collection of text objects that convey an idea or summarizes a topic. Each document is allocated a single vector within the data matrix (i.e., a weighted document term-frequency vector or weighted sentence term-frequency vector).)

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang, to include the step of decomposing said document into individual sentences; forming a candidate sentence set from said individual sentences; for each of said individual sentences in said candidate sentence set, creating a weighted sentence term-frequency vector as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

***Regarding independent claim 21,***

Claim 21 incorporates substantially similar subject matter as cited in claim

1. Thus, the rejection of claim 1 is fully incorporated.

In addition, Foltz teaches:

**constructing a terms-by-sentences matrix for said document;  
performing singular value decomposition on said terms-by-sentences matrix to obtain a singular value matrix and a right singular vector matrix, wherein each sentence in said document is represented by a column vector of a transpose of said right singular vector matrix; ranking each right singular vector in said right singular vector matrix;**

(See Foltz at Column 6, Lines 25-30, discloses the method for preparing the data Matrix for Singular Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document as shown in Table 2 Column 5 Line 55.

Also see Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document as shown in Equation (1) (2), (3), and (4) producing each sentence in said document is represented by a column vector of a transpose of said right singular vector matrix; ranking each right singular vector in said right singular vector matrix;)

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang,

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to include the step of constructing a terms-by-sentences matrix for said document; performing singular value decomposition on said terms-by-sentences matrix to obtain a singular value matrix and a right singular vector matrix, wherein each sentence in said document is represented by a column vector of a transpose of said right singular vector matrix; ranking each right singular vector in said right singular vector matrix as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

***Regarding independent claim 26,***

Claim 26 incorporates substantially similar subject matter as cited in claim 9. Thus, the rejection of claim 9 is fully incorporated.

In addition, Foltz teaches:

**an SVD performer for performing singular value  
decomposition on said terms-by-sentences matrix to generate a  
singular value matrix and a right singular vector matrix;**

((See Foltz at Column 6, Lines 25-30, discloses the method for preparing the data Matrix for Singular Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document as shown in Table 2 Column 5 Line 55.

Also see Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to

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each cell within the term-by-document as shown in Equation (1) (2), (3), and (4) producing each sentence in said document is represented by a column vector of a transpose of said right singular vector matrix; ranking each right singular vector in said right singular vector matrix;)

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang, to include the step wherein an SVD performer for performing singular value decomposition on said terms-by-sentences matrix to generate a singular value matrix and a right singular vector matrix as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

***Regarding independent claim 29,***

Claim 29 incorporates substantially similar subject matter as cited in claims 13, and 26. Thus, the rejection of claims 13, and 26 are fully incorporated. Thus Hwang and Foltz disclose every limitation of Claim 29 and provides proper reasons to combine, as indicated in the above rejections for Claims 13 and 26.)

***Claim 2,***

Hwang and Foltz teach the method of claim 1 and further comprise:

**recreating said weighted document in accordance with said deleting and said eliminating; and selectively repeating said computing, said selecting, said deleting, said eliminating, and said recreating,**

(See Page 4 Para 40-41 and the Abstract → Hwang discloses this limitation in that the generic text summary based on the selected sentence, by selecting sentences for inclusion in the document text summary based upon the ranking, then the sentences determined for inclusion are then extracted for constructing a text summarization.

See also Page 5 Para 47→ Hwang discloses this limitation in that each client, when a new document arrives, the system checks if the document is relevant to the client. Processing new documents against pre-selected, client-specific concepts defined by the client, or inferred by the system, and computing the relevancy score for each document, the system can perform a continual text summarization method,)

In addition, Hwang does not explicitly teach, but Foltz teaches:

**Term-frequency vector,**

( See Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document),

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang, to include the step of creating a term-frequency vector as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

***Claim 3,***

Hwang and Foltz teach the method of claim 2 and further comprise:

**wherein said selectively repeating is terminated when a predetermined number of sentences have been selected.**

(See also Page 5 Para 47→ Hwang discloses this limitation in that each client, when a new document arrives, the system checks if the document is relevant to the client. Processing new documents against pre-selected, client-specific concepts defined by the client, or inferred by the system, and computing the relevancy score for each document, the system can perform a continual text summarization method,)

Also see Fig. 3 and at Page 4 Para 36-41→ Hwang discloses this limitation in that the flow chart of Fig. 3 shows the selected sentences are then ranked (block 310) by their score. Based upon the ranking of the sentences and pre-defined criteria, the sentences that are to be included in the summary are determined in block 312, and out put the text summary at block 318 and terminated the process (i.e. end).

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***Claim 4,***

Hwang and Foltz teach the method of claim 2 and further comprise:

**calculating an inner product of said weighted sentence term-frequency vector and said weighted document term-frequency vector**

(See Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document, wherein the dot products (i.e., inner product) between points in the space can be used to access and compare objects.)

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang, to include the step of creating a term-frequency vector as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

***Claim 10,***

Hwang and Foltz teach the method of claim 9 and further comprise:

***wherein said vector generator recreates said weighted document term-frequency vector in accordance with output results,***

(See Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document.

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Also see Column 3 Lines 30-45, Foltz discloses this limitation that generates a vector representation of a selected reference text from the plurality of reference text used to create the data matrix. This selected reference text is otherwise known as a standard reference text or is equivalently known as a standard text (i.e. generates vectors in accordance with output results).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang, to include the step of recreating said vector generator said weighted document term-frequency vector in accordance with output results as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

***Claim 11,***

Hwang and Foltz teach the method of claim 10 and further comprise:

**wherein said summarizer further comprises a loop routine for generating iterative sequential operations.**

(See Page 5 Para 47→ Hwang discloses this limitation in that each client, when a new document arrives, the system checks if the document is relevant to the client. Processing new documents against pre-selected, client-specific concepts defined by the client, or inferred by the system, and computing the relevancy score for each document, the system can perform a continual text summarization method,)



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***Claim 12,***

Hwang and Foltz teach the method of claim 11 and further comprise:

**wherein said selectively repeating is terminated when a  
predetermined number of sentences have been selected.**

(See Fig. 3 and at Page 4 Para 36-41→ Hwang discloses this limitation in that the flow chart of Fig. 3 shows the selected sentences are then ranked (block 310) by their score. Based upon the ranking of the sentences and pre-defined criteria, the sentences that are to be included in the summary are determined in block 312, and out put the text summary at block 318 and terminated the process (i.e. end).

***Claims 14-16 respectively,***

Claims 14-16 respectively correspond to Claims 2-4. Thus, Hwang in view of Foltz discloses/teaches every limitation of Claims 14-16 respectively and provide proper reasons to combine, as indicated in the above rejections for Claims 2-4.

***Claims 22-23 respectively,***

Claims 22-23 respectively correspond to Claims 2-3. Thus, Hwang in view of Foltz disclose/teach every limitation of Claims 22-23 respectively and provide proper reasons to combine, as indicated in the above rejections for Claims 2-3.

**Claim 24,**

Hwang and Foltz teach the method of claim 21 and further comprise:

**wherein said selecting further comprises identifying a sentence having a desired index value with said right singular vector.**

(See Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document, wherein the matrices of left and right singular vectors and  $S$  is the diagonal matrix of singular values.

Also see Column 3 Lines 30-45, Foltz discloses this limitation that generates a vector representation of a selected reference text from the plurality of reference text used to create the data matrix as shown in table 2 "*term by document*" matrix (see table 2 Column 5 Lines 35-55). This selected reference text is otherwise known as a standard reference text or is equivalently known as a standard text (i.e. generates vectors in accordance with output results).

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang, to include the step of selecting further comprises identifying a sentence having a desired index value with said right singular vector as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

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***Claims 27-28 respectively,***

Claims 27-28 respectively correspond to Claims 11-12. Thus, Hwang in view of Foltz discloses/teaches every limitation of Claims 27-28 respectively and provide proper reasons to combine, as indicated in the above rejections for Claims 11-12.

***Claims 30-31 respectively,***

Claims 23-24 respectively correspond to Claims 23-24. Thus, Hwang in view of Foltz discloses/teaches every limitation of Claims 30-31 respectively and provide proper reasons to combine, as indicated in the above rejections for Claims 23-24.

**Claims 5-8, 17-20, 25, and 32** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hwang** et al., US20020078090A1 -Provisional No. 60/215,436 filed 06/30/2000 (hereinafter "Hwang"), in view of **Foltz** et al., US006356864B1 - filed 07/23/1998 (hereinafter "Foltz"), further in view of **Boguraev** et al., US Patent No. 6,865,572 Con of US Patent No. 6,353,824 - filed 11/18/1997 (hereinafter "Boguraev")

***Claim 5,***

Hwang and Foltz teach the method of claim 2 and further comprise:

**wherein said creating a weighted sentence term-frequency vector**

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(See Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document,

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang, to include the step of creating a term-frequency vector as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

In addition Hwang and Foltz do not expressly teach, but Boguraev teaches:

**implementing a local weighting function and implementing a global weighting function.**

(See Column 11, Lines 55-65→ Boguraev discloses this limitation in that the discourse structure included the local and global salient value for every referent in the text that is available by anaphora resolution.)

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang and Foltz, to include the step of implementing a local weighting function and implementing a global weighting function as taught by Boguraev, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

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**Claim 6,**

Hwang Foltz and Boguraev teach the method of claim 5 and further comprise:

**wherein said creating a weighted sentence term-frequency vector comprises normalizing each said weighted sentence term-frequency vector.**

(See Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document (i.e. normalizing). This interpretation is supported by the Applicant disclosure, which states, "another *vector may be created by normalizing  $A(k)$  by its length, or magnitude  $A(i)$* ," see Applicant's Specs at Page 7 Lines 22.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang and Boguraev, to include the step of creating a weighted sentence term-frequency vector comprises normalizing each said weighted sentence term-frequency vector as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

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***Claim 7,***

Hwang and Foltz teach the method of claim 1 and further comprise:

**wherein said creating a weighted document term-frequency  
vector**

(See Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document,

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang, to include the step of creating a term-frequency vector as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

In addition Hwang and Foltz do not expressly teach, but Boguraev teaches:

**implementing a local weighting function and implementing a  
global weighting function**

(See Column 11, Lines 55-65→ Boguraev discloses this limitation in that the discourse structure included the local and global salient value for every referent in the text that is available by anaphora resolution.)

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang and Foltz, to include the step of implementing a local weighting function and implementing a global weighting function as taught by Boguraev, for the purpose

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of providing a predictable result of said delivering fully informative and automatically generate a text summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

***Claim 8,***

Hwang, Foltz and Boguraev teach the method of claim 7 and further comprise:

**wherein said creating a weighted document term-frequency vector comprises normalizing each said weighted document term-frequency vector.**

(See Foltz at Fig. 1 and Column 7, Line 55→Column 9, Line 40, discloses Value Decomposition (SVD), includes weighted value is applied to each cell within the term-by-document (i.e. normalizing). This interpretation is supported by the Applicant disclosure, which states, "*another vector may be created by normalizing  $A(k)$  by its length, or magnitude  $A(i)$* ," see Applicant's Specs at Page 7 Lines 22.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the method, disclosed in Hwang and Boguraev, to include the step of creating a weighted sentence term-frequency vector comprises normalizing each said weighted sentence term-frequency vector as taught by Foltz, for the purpose of providing a predictable result of said delivering fully informative and automatically generate a text

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summary from a document focused on the user's interests - See Hwang at Page 1-2 Para 12.

***Claims 17-20 respectively,***

Claims 17-20 respectively correspond to Claims 5-8. Thus, Hwang in view of Foltz, and further in view of Boguraev disclose/teach every limitation of Claims 17-20 respectively and provide proper reasons to combine, as indicated in the above rejections for Claims 5-8.

***Claims 25 and 32,***

Claims 25 and 32 correspond to Claim 5. Thus, Hwang in view of Foltz, and further in view of Boguraev disclose/teach every limitation of Claims 25 and 32 and provide proper reasons to combine, as indicated in the above rejections for Claim 5.

It is noted that any citations to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. See, MPEP 2123.



***Response to Arguments***

The Arguments filed on 11/14/2007 and RCE filed 12/17/2007 has been fully considered but they are moot in view of the new ground(s) of rejection (See above rejection s for details).

This office action is a Non-Final Rejection in order to give the applicant sufficient opportunity to response to the new line of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quoc A. Tran whose telephone number is 571-272-8664. The examiner can normally be reached on 9AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doug Hutton can be reached on 571-272-4137. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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*/Quoc A, Tran/*

Patent Examiner

Art Unit 2176

02/25/2008

/William L. Bashore/  
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